

DESCRIPTION OF A NEW STICKLEBACK, *GASTEROSTEUS GLADIUNCULUS*, FROM THE COAST OF MAINE.

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WHILE cruising on the Maine coast, on the United States Fish Commission schooner *Grampus*, during the mackerel investigation of the summer of 1895, the writer caught in surface and scoop nets a number of sticklebacks which differed widely from *Gasterosteus bispinosus*, many of which were caught in the same localities and under the same conditions. While *G. bispinosus* was abundant all along the coast, the form now described was apparently confined to an area within a few miles of Seguin Island. They were found under floating rock-weed (*Fucus nodosus* and *F. vesiculosus*), large quantities of which were encountered on the coast this summer. Often associated with the two kinds of sticklebacks mentioned were young hake (*Phycis chuss* or *P. tenuis*), young lumpfish (*Cyclopterus lumpus*), and pipefish (*Siphostoma fuscum*).

The stickleback here described seems to differ considerably from the description of any other stickleback known from the western Atlantic Coast. It is related, however, to *G. bispinosus*, approaching more or less closely the variety *atkinsii* of Schoodie Lakes. Although Dr. Boulenger of the British Museum finds wide variations in the dermal armature of *G. aculeatus*, as also does Mr. Cloudsley Rutter, in the sticklebacks of the Pacific Coast, there seem to be sufficient other differences to establish this form as a distinct species. The main points in which it differs from *G. bispinosus* are the deeper body, fewer fin rays, fewer dermal plates, unkeeled caudal peduncle, ventral spines serrated above and below, and a strong cusp at the base of each ventral spine, both above and below. In identifying and describing this stickleback I am greatly indebted to Prof. B. W. Evermann for kindly allowing me free use of proof sheets of Jordan and Evermann's *Fishes of North and Middle America*.

The following is a description of the heretofore undescribed form, together with measurements and observations on the cotypes:

GASTEROSTEUS GLADIUNCULUS, new species.

Description.—Head, $3\frac{1}{2}$; depth, $3\frac{1}{2}$; D. II—I, 10; A. I., 8. Head rather long; eye about three times in head; opercle not striate; body deep,

¹Gladiunculus, little sword; sticklebacks being called by the boys about Portland, Me., "Little swordfish."

compressed, with five lateral dermal plates anteriorly counting from pectoral fin, none posteriorly; caudal peduncle short, naked, not keeled; innominate bone lanceolate, its width about three times in length; ventral spines rather long, about one and three-fifths times in head, serrated above and below, a strong cusp at base on both upper and lower edge.

Color in life grass green, mottled and finely punctated with black on top of head and back; sides of head and body golden, with dark blotches; breast silvery, ventrals scarlet. In alcohol the back becomes smoky black, the mottling and black dots more distinct, the golden hue of the sides fades, becoming more or less silvery, the dark blotches more pronounced.

Type.—No. 47589, U.S.N.M.; a specimen $1\frac{1}{16}$ inches long, caught about 4 miles off Seguin Island, Maine, September 9, 1895; cotypes Nos. 47590 and 47591, U.S.N.M.

Measurements of Gasterosteus gladiunculus.

Date.	Locality.		Length in inches.	Head in length.	Depth in length.	Dorsal fin.	Anal fin.	Dermal plates.
	North lati- tude.	West longi- tude.						
1895.								
Aug. 5	43 29 30	69 57 30	1	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 9	1.8	5
Aug. 5	43 29 30	69 57 30	$1\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 9	1.8	5
Aug. 7	43 30 00	69 45 00	$1\frac{3}{16}$	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 9	1.7	6
Sept. 6	43 28 45	69 42 45	$1\frac{1}{2}$	$3\frac{1}{2}$	4	II-I, 9	1.8	8
Sept. 6	43 28 45	69 42 45	$1\frac{5}{16}$	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 10	1.8	5
Sept. 6	43 28 45	69 42 45	$1\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 10	1.7	5
Sept. 6	43 28 45	69 42 45	$1\frac{3}{8}$	$3\frac{1}{2}$	4	II-I, 10	1.7	24
Sept. 6	43 29 30	69 41 15	$1\frac{3}{8}$	$3\frac{1}{2}$	$3\frac{1}{2}$	II-I, 10	1.8	6
Sept. 7	43 31 15	69 44 00	$1\frac{1}{2}$	$3\frac{1}{2}$	4	II-I, 9	1.8	4

For purposes of comparison, measurements of *G. bispinosus* taken in the same locality at the same time are here given:

Measurements of Gasterosteus bispinosus.

Date.	Locality.		Length in inches.	Head in length.	Depth in length.	Dorsal fin.	Anal fin.	Dermal plates.
	North lati- tude.	West longi- tude.						
1895.								
Aug. 6	43 21 15	70 2 45	$1\frac{7}{16}$	$3\frac{1}{2}$	4	II-I, 13	1.9	31
Aug. 6	43 21 15	70 2 45	$1\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{16}$	II-I, 13	1.9	31
Aug. 6	43 21 15	70 2 45	$1\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{16}$	II-I, 13	1.8	31
Sept. 6	43 28 45	69 42 45	2	$3\frac{1}{2}$	4	II-I, 14	1.9	32
Sept. 6	43 28 45	69 42 45	$1\frac{7}{8}$	$3\frac{1}{2}$	$4\frac{1}{2}$	II-I, 12	1.8	31
Sept. 6	43 28 45	69 42 45	$2\frac{1}{8}$	$3\frac{1}{2}$	$4\frac{1}{16}$	II-I, 13	1.10	33
Sept. 6	43 28 45	69 42 45	$1\frac{5}{8}$	$4\frac{1}{2}$	$4\frac{1}{2}$	II-I, 12	1.8	31
Sept. 6	43 28 45	69 42 45	$1\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{12}$	II-I, 12	1.8	28

¹This specimen differs somewhat from the typical form and approaches *G. bispinosus* in having lateral dermal plates the whole length of the body (the last 12, however, being very small), and having a very slight keel on the caudal peduncle. In other respects it is like the typical form.